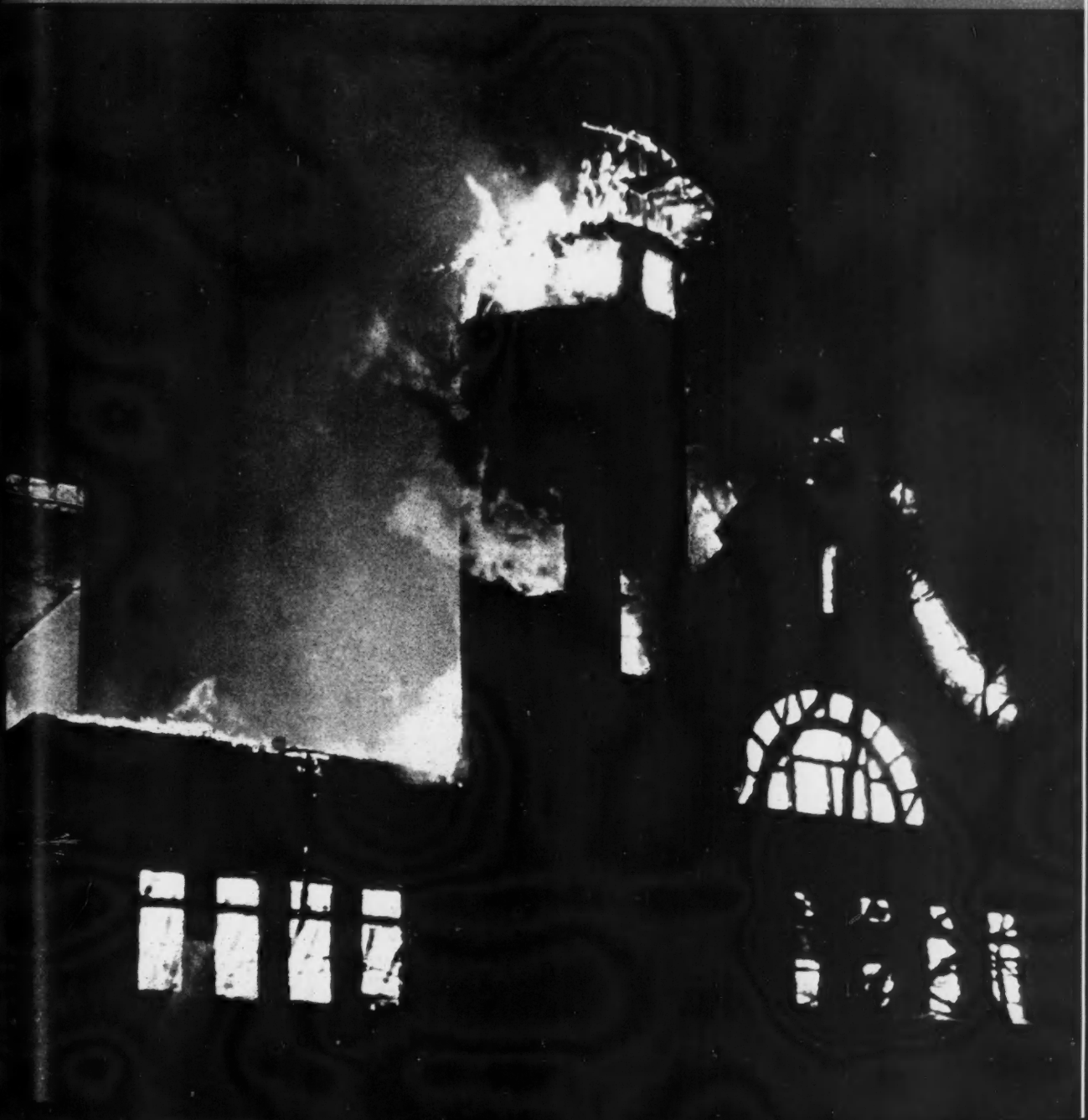
Volunteer Firemen

AUGUST

1940

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston, Massachusetts

VOLUME 7, NUMBER 2, COPYRIGHT 1940 NATIONAL FIRE PROTECTION ASSOCIATION — PRINTED IN U. S. A.

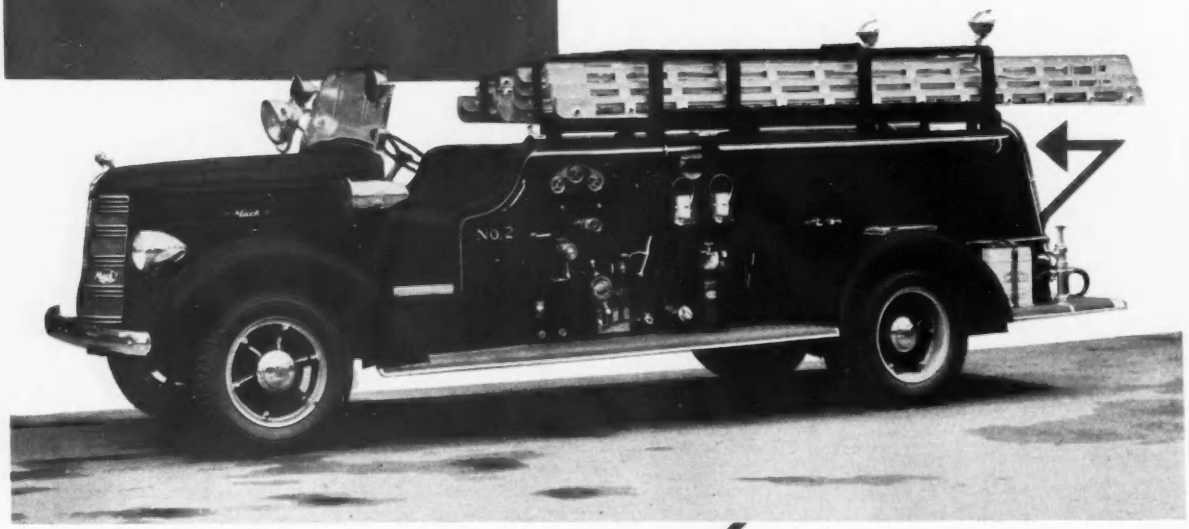


Mack

TYPE 45, 500 GALLON CAPACITY

2-STAGE CENTRIFUGAL PUMPING ENGINE

Delivered to **MONROE, WASHINGTON**



LADDER EQUIPMENT

(All Aluminum)

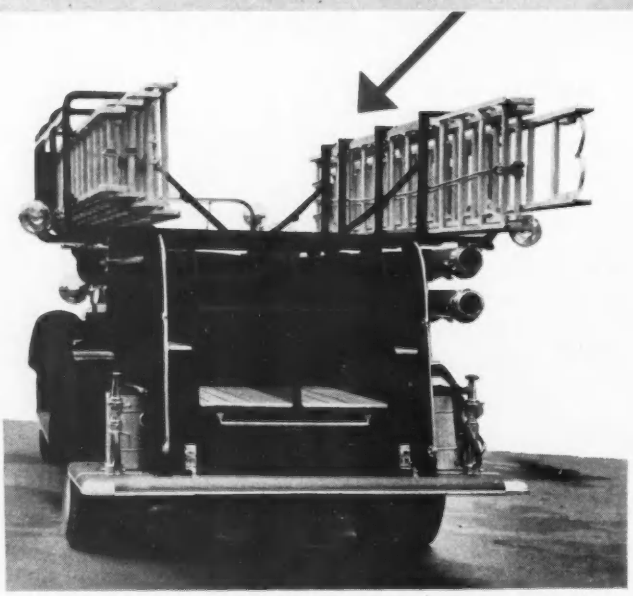
One 45′ 4-section

One 24′ 2-section

One 16′ roof

One 12′ roof

This Triple Combination is really a small quadruple



Ladders are securely fastened in brackets which can be raised and tilted to one side when it is necessary to reload hose. After the hose is laid in the body, the ladders are dropped back into place.

OTHER EQUIPMENT

500-gal., 2-stage Centrifugal pump

100-gal. water tank

Hose reel with 200′ ¾″ hose

Compartment through center of body for salvage covers, etc.

IF IT CAN BE BUILT, MACK WILL BUILD IT

Volunteer Firemen

Volume 7 Number 8

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch Street, Boston, Mass.

Percy Bugbee	General Manager
Robert S. Moulton	Technical Secretary
Horatio Bond	Chief Engineer
Warren Y. Kimball	Fire Record Dept.
Charles S. Morgan	Advertising Manager
Harry Hollander	Editorial Assistant

CONTENTS
For August 1940

Incendiary Bombing 4
Movie Star in Hot Tar 4
Conflagration Breeder! 5
Lightning 6
Los Angeles Fireworks Publicity . . . 7
Parachuting to Forest Fires 8
Pumper Performance 10
Firemen and Firemen, by Chief J. W. Just, University of Md. 10
The Cry of Wolf! 11
Fire Department Salaries, by Population Groups 12
Whistle "Talk" 12
Pyrene Prize Letter Contest 14

THIS month's cover picture shows the progress of a school fire eleven minutes after it began. The fire, which took place in the Alpena, Michigan, high school on April 14, was beyond the control of any fire department when it was discovered. The cause of the fire was not definitely established, although the electric wiring was known to be overloaded, over-fused, and not in first-class condition. The fire started in the school basement in which was kept a sweeping compound in wooden barrels.

VOLUNTEER FIREMEN has continually stressed the need for automatic sprinkler systems in schools. Here is a case of an approximately $200,000 loss which almost surely would have been prevented had this high school been sprinklered.

A school fire such as this is a warning to other school boards to insist on good housekeeping, and to check their fire defenses.

VOLUNTEER fire departments often have members sparkling with ingenuity who make valuable contributions to the efficiency of their own companies. Many times these fellows are modest and therefore reluctant to pass on to other companies these new developments. One of the purposes for which VOLUNTEER FIREMEN was started was as a medium of exchange of ideas between fire departments. Here is a typical case.

After a fire, at which they had some difficulty in transmitting messages from men at the apparatus to men at the fire, Humboldt, Iowa, volunteers devised a portable telephone equipment. The two telephones, toy variety, that were purchased from a large mail order house, are at opposite ends of about 300 feet of wire. The coil and the batteries which power the transmission are contained in a small case.

The Humboldt department now sends a telephone into a burning building with the first firemen. The men on the pumper can then find out what's going on inside without delay, and can carry out their duties more effectively.

Undoubtedly your own fire department has two or three new wrinkles. VOLUNTEER FIREMEN is always glad to hear of new techniques which make fire fighting more efficient.

"You Still Have a Lot to Learn!"

Reprinted by courtesy of the Evening Star, Washington, D. C., and released by Consolidated News Features, Inc.

WE all have a lot to learn when it comes to fire protection. The N.F.P.A. members would be the first to admit the truth of such a statement for the Association has had an ear to the ground, regarding fire protection, since 1896 . . . and an eye to the future when fire will be prevented from taking its customary yearly toll of property and loss of life.

And this future which will usher in the death knell of fire losses draws ever nearer. New valuable up-to-the-minute information on fires, causes of fires, fire fighting methods, and fire protection technique continues to pour in to the offices of the N.F.P.A. from leaders in every field of business and industry. Such material is sorted, sifted and analyzed. As data on any particular phase of fire protection is developed, this information is made available to members of the N.F.P.A. in the form of books, booklets, pamphlets and posters.

Volunteer firemen are among those who are on the first line of defense against fire. Their spirit and active interest have contributed much to the activity of N.F.P.A., whose publications serve them.

LAST month 4 departments with 31 men joined the Volunteer Firemen's Section for the first time. In addition 28 departments with 597 men renewed membership. This makes the total enrollment 689 departments and 14,595 men. The following departments are newly enrolled:

Midlothian Fire Department, Midlothian, Illinois.

Grosse Pointe Park Fire Fighters Association, Grosse Pointe Park, Michigan.

Chisholm Fire Department, Chisholm, Minnesota.

Langley Prairie Volunteer Fire Brigade, Langley Prairie, British Columbia.

THE estimated U. S. fire loss for June, 1940, according to the National Board of Fire Underwriters is $19,506,000. This figure is based on notices of incurred loss received by companies, members of the board, plus an allowance for unreported and uninsured losses. Losses for the first six months of 1940 are $4,185,554 ahead of the losses for the same six months of 1939. The following table shows the losses for each month of 1939 and for the first five months of 1940:

	1939	1940
January	$27,615,316	$36,260,650
February	29,303,520	34,410,250
March	30,682,168	29,788,800
April	27,061,522	26,657,190
May	27,031,700	23,446,590
June	24,190,700	19,506,000
Total 6 months	$165,884,926	$170,069,480

Incendiary Bombing

AMONG the war news recently trickling through from Europe is the following item regarding the extinguishment of fires caused by incendiary bombs. This news clipping suggests that the fire fighting in time of war is more vital than ever to defense.

"London—A thickly populated area of Northeast Scotland was showered with incendiary bombs loosed from German raiding planes early today. Many bombs fell on a large school, which was unoccupied at the time. The building was set afire. Other incendiary bombs fell on apartment houses, but tenants tackled the bombs with shovels and pails of sand and quickly extinguished the flames. Auxiliary fire services stemmed other blazes. Fires in two timber yards were subdued before great damage was done. A clergyman smothered one bomb near his home with sand, suffering slight burns in the process."

THE photograph below, made from a British Royal Air Force plane, shows a burning oil tank at Dunkirk ignited by bombs from R. A. F. planes after Allied troops had evacuated the port. This picture shows the importance of proper construction and separation of tanks as a precaution against incendiary bombing. No above ground oil tank is immune to the possibility of fire resulting from bombing which ruptures the tank and ignites escaping oil. Under war conditions where fire departments may be unavailable and the oil plant personnel unable to do any effective fire fighting, proper dyking to prevent the spread of burning oil, adequate space between tanks to minimize the danger of spread of fire from one tank to another, and standard gas-tight construction are of great importance. Proper protection for oil tanks is fully covered in the N.F.P.A. Ordinance on Flammable Liquids.

These indications of the real hazard of incendiary bombings show the need of clear thinking by those responsible for local fire defenses in time of war, in other words, on the part of the local fire department authorities. In time of war the control of fires set by arsonists and saboteurs is a big job, requiring the all time efforts of the fire department. When incendiary bombs are falling every piece of fire equipment will be needed for fire fighting purposes, particularly in areas having congested districts and wooden shingle roofs.

International

Out of the Bag!

The *American Miller* magazine for June 1940 presents this explanation as to why fire trucks are red.

"There are 4 men on a fire truck. Four men have 8 feet. There are 3 feet in a yard. One yard equals 36 inches. Thirty-six inches divided by 3 inches make a ruler. Queen Mary was a Ruler. There is also a boat entitled 'Queen Mary.' The boat sails the oceans and seas. Underneath the boat in the water are fishes. The fishes have fins. The Finns fight the Russians. The Russians are Red. The Russians are always rushin'. Therefore, Fire Trucks are red."

Movie Star In Hot Tar

THE *Chief*, New York's intriguing newspaper devoted to the civil service, reported the following occurrence in its Fire Crackers column of July 12. While the *Chief's* more detailed account was designed for New York readers, we feel that the admirers of Gary Cooper, film star, in other locations will be interested to know something of his influence upon fire protection at the LaGuardia Airport:

"The old pumper of Eng. 304 is at the loading platform of LaGuardia Airport. The suction of the engine is connected to the standpipe of the Administration Building. The discharge gate is hooked up with a few lengths of two and a half, 'just in case.' The story behind the news is this. A temporary ground apron around the airplane terminal is topped with tar. A few hot sunny days during June caused the tar to ooze quite a bit and right where the best customers, who fly, are compelled to walk from the airplanes. One recent hot day Gary Cooper soared into town from Hollywood. As Mr. Cooper was negotiating the tar zone one of his $20-a-pair sport shoes refused to take his stride and Mr. Cooper had to do a balancing act on one foot. With the help of one of those courtecus young men who make flying fields a pleasure, Mr. Cooper re-entered the anchored shoe and worked himself free. But that wasn't all. Some of the tar had caught on to Mr. Cooper's immaculate white flannels. He didn't know it until he had entered a limousine. To make matters worse, the bloomin' tar had smeared a velour lap-robe. Mr. Cooper went up in the air again sans plane.

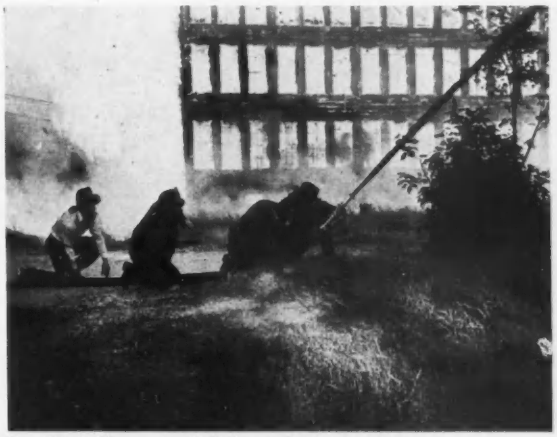
"When the Mayor heard about all this, he promptly ordered the tar removed. Blast furnaces on wheels were put to work melting the tar. But one day the burner caught fire and the airport fire brigade had a man-size job to put it out. Hence the presence of Eng. 304 on stationary post, so that there would not be a repetition of the LaGuardia Airport fire." (Reported on page 5, May issue, VOLUNTEER FIREMEN.)

Conflagration Breeder!

The reason why vacant factories without adequate private fire protection are commonly termed "conflagration breeders" is well illustrated by this fire which destroyed a large wooden factory at Leominster, Mass., on June 23, 1940.

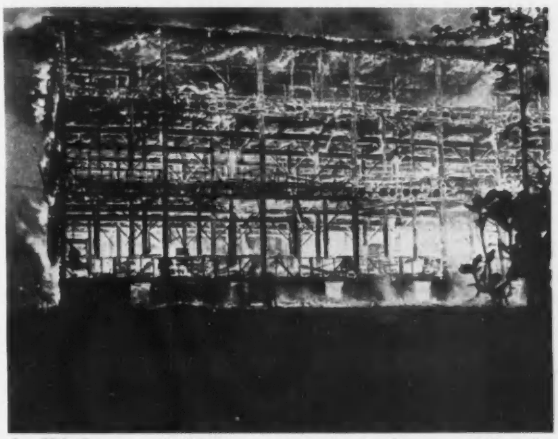
Such conflagration breeders present a direct exposure hazard to nearby property due to intense radiated heat. Also an adequate patrol of areas endangered by flying brands is likely to be one of the most important fire fighting operations.

1. Fire beyond control as firemen arrive.

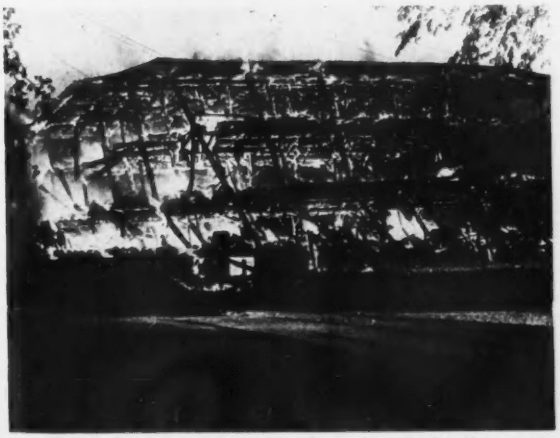


2. Hand line operated to protect exposures.

3. Firemen struggle to save home blistered by intense heat, but not burning.

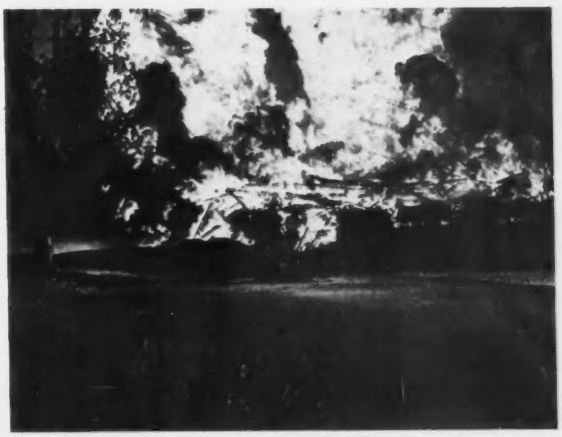


4. Windows and frames gone, reveal flames raging in heavy timber skeleton.



5. There she goes, thundering down in one terrific crash.

Photos—Alan F. Lydiard



6. Flaming ruins.

Lightning

LIGHTNING has intrigued man since time immemorial. To the ancients its spectacular flashes, zigzagging across the heavens and bolting to earth, were a manifestation of the wrath of the gods. Now, too, man still respects this phenomenon. Some dread being struck; others worry over possible property damage. Such fears are not without foundation as on an average about 400 persons are killed and 1,000 persons are injured by lightning in the United States yearly. Property damage resulting from lightning and lightning fires amounts to more than $10,000,000 annually.

Although the mysteries of lightning are not entirely solved, engineers have accumulated much knowledge regarding the protection of life and property from damage during these storms. Lightning is the passing, under favorable atmospheric conditions, of huge amounts of electricity through the sky. In most cases it jumps from cloud to cloud, but it frequently strikes down to earth. Like other electrical charges, lightning is known to follow the path of least electrical resistance.

The best protection there is against lightning is the lightning rod. It conducts electrical discharges safely to the ground, avoiding damage which might result to buildings with lightning uncontrolled. Practically all modern steel frame buildings are unharmed if struck by lightning because steel structural members conduct the electrical discharges safely to the ground. Unrodded wooden buildings if in the path of a bolt, are likely to receive the full force of the stroke, as wood is a poor conductor of electricity. However, a substantial metal roof, electrically bonded, adequately grounded and provided with air terminals may give good protection.

Experience shows that properly installed and well maintained lightning rods have an efficiency in the prevention of lightning damage to farm property close to 100 per cent. Proper protection requires substantial, suitably located rods installed in accordance with the N.F.P.A. Code for Protection Against Lightning. To insure proper installation it is important that lightning rod systems when completed should carry the label of Underwriters' Laboratories, Inc. This label indicates a careful inspection by impartial expert engineers to insure compliance with lightning code safety requirements.

Since lightning often causes a severe fire almost coincidental with the bolt, volunteer firemen not otherwise engaged should in a severe thunder storm report to the fire station and hold themselves in readiness. For example, when a dairy barn is struck a very few minutes may be all the time available for removing the stock to safety. If the volunteer firemen get under way the moment the call is received, they may help save live stock that might otherwise be lost.

Again if a house is struck and there is an attic fire, it is important to be on the job in time to control the fire with first aid equipment. If time is lost waiting for the firemen to assemble, lightning fires are likely to require heavy streams for which adequate water may not be readily available.

A further reason why fire departments should be on the job during an electric storm is that prompt first aid may save the lives of persons who have been shocked by lightning.

Farm Machinery Plant Burns

FIRE starting in the paint spraying department of a large farm machinery plant at Hopkins, Minn., won a tussle with several volunteer departments and rolled up a loss exceeding $485,000 on May 5th.

The fire spread faster than the firemen could lay their hose and it was impossible for them to get ahead of the blaze to cut it off. Help was called from the volunteer departments of St. Louis Park, Excelsior and Wayzata. Minneapolis also sent one fire company.

Just how the fire started is not known, but it is believed likely that painters' clothing ignited spontaneously. The L-shaped building was 400 feet long and 300 feet wide. There were no effective fire cut offs and there was no automatic sprinkler protection. The watchman who discovered the fire at 6:25 A. M. called the volunteer department which responded with two pumpers.

The water supply for the visiting fire companies was adequate but they were delayed in getting into action because of the necessity of digging out private hydrants which had hose connections installed below the ground level. They were also handicapped by the lack of large pumper connections on the hydrants. It is said the fire burned with the intensity of a blast furnace which buckled heavy steel beams supporting a crane and caused glass to melt out of the windows and run down the brick walls.

She Met Her Match

A dainty Little Cigarette,
One evening met her Match,
Both thought the other perfect
And a most engaging catch.
Their love soon ripened into flame,
And fanned by Zephyrs light,
A million dollars worth of stuff
Burned up that winter's night.

So, when you introduce a match,
To pipe or cigarette,
Be sure to take precautions
Or else you may regret
Your careless "light behavior,"
For a match will often start
A costly conflagration
In a building or a heart.

Only a little cigarette,
Dropped on the closet floor;
Only a little apron,
Hanging beside the door;
Only a little creeping,
Up to the apron-strings;
Only a home in ashes,
Think of these little things.

This poem appeared in a recent bulletin of the Underwriters' Salvage Corps, Cincinnati, Ohio. The bulletin took this as an opportunity to point out that the careless throwing away of lighted cigarettes is the worst of the common causes of fire.

Los Angeles Fireworks Publicity

HERE is publicity that does a job. Captain O. J. Emory of the Los Angeles Fire Department arranged the following photo sequence, with the help of radio and screen star Edgar Bergen —and Charlie, of course.

Edgar Bergen tries to get Charlie McCarthy interested in a set of "Safe and Sane Fourth" rules as promulgated by the Los Angeles Fire Department.

"Safe and Sane Fourth?" says smart-aleck McCarthy. "That's sissy stuff." Charlie proceeds to shoot the works under Bergen's chair.

"Bang!" A dud explodes in Charlie's hand causing him plenty of pain.

Inspector Allan Hitchcock of the Fire Department first aid squad comes to the rescue.

A sorrowful Bergen carries badly injured Charlie home to bed where he won't be able to see the spectacular public fireworks display.

A penitent Charlie spends his Fourth on his back, as his rival Mortimer Snerd pinch hits for him in the holiday celebration.

Parachuting to Forest Fires

Pictures, Inc.
A jumper steers his parachute to a landing near a test fire in the Chelan National Forest, close to Winthrop, Washington.

EXPERIENCED forest fire fighters know that time is an essential factor when it comes to combating forest fires. If the fire can be reached immediately, the chances of "nipping it in the bud" are one hundred fold greater than when it is reached an average of five or six hours after it has started. Both Federal and state forestry agencies have developed elaborate systems for promptly locating forest fires. Airplane patrols, tower lookouts, and mountain rangers are on constant watch during danger times to catch the first wisp of smoke. Unfortunately, in many instances the rugged terrain makes it impossible to reach the fire, no matter how quickly discovered, before it has made considerable headway.

One means of effecting a more rapid attack upon fire in inaccessible mountain areas is by means of parachute fire fighting troops, or "smoke jumpers," as they are called by the Forest Service. During the fall of 1939, the Forest Service, U. S. Department of Agriculture, conducted experimental parachute jumps in the Chelan National Forest in northern Washington. The Department's aim was to determine how safely smoke jumpers could land in inaccessible mountain areas. Since the tests are not completed and the results of the experimentation are not conclusive, this type of fire fighting technique is still considered experimental pending further study. However, two important things have been learned from these experiments. Parachute jumpers can land in forested mountain areas without physical injury or shock. Simulated or "spot" fires in such mountainous wooded terrain can thus be reached in a relatively short time after the fire alarm is sent in.

The method adopted by the U. S. Forest Service for this type of parachute fire fighting is based on two factors, safety to personnel and accuracy of landing at the proper spot. In making experimental jumps to ascertain what might happen to the jumper and his 'chute when landing in a tree, or falling from the side of a tree, or descending between trees, a 110-pound dummy was used. It was released on a 24-foot diameter condemned army parachute.

In these experiments special clothing was designed for the jumpers. This consists of a two-piece suit made of army duck material. This suit is amply padded to protect all parts of the body, both against the initial shock received when the parachute opens, and also against all dangers of landing in rough wooded areas. Other protective equipment worn is an athletic supporter, a back and abdomen brace, a football helmet with a hinged steel mask, woodsman's boots, outside ankle braces made of leather, and leather gloves.

The parachute used for these experiments was of a new type, 30 feet in diameter. This 'chute is easier to guide and descends more slowly than the usual parachute which is from 22 to 28 feet in diameter.

The "flying firemen" are first thoroughly schooled on the ground in the best methods of jumping from a plane. They are taught how to count two seconds after jumping before pulling the ripcord. The reason for this procedure is so that the parachute, upon opening, will not become tangled with the plane. Jumpers are also instructed in how to take up body shock by stiffening their legs when the parachute jerks open.

The value of fire fighting by means of parachute jumpers obviously depends upon having the firemen land uninjured near the fire. In order to determine in advance where and how the jumper will land, and to assure safe and accurate landings for the jumpers, several small parachutes are first dropped with weights from the plane. Such small trial burlap parachutes are released when the plane is supposedly over the spot fire. In this way the effect of the resultant drift of the winds on the jumper's descent can be determined. For instance, the trial parachute might land several hundred yards short and to the right of the target. The pilot then would be able to determine at approximately what speed, altitude and direction his plane should be going in order that the jumper will land nearer the target.

After extensive tests in which the ground crew participated by recording the actions of these different 'chutes, the "flying firemen" made their jumps.

Here is an actual description of a parachute descent as given by a jumper. This jump was made after the two trial parachutes had been released to help the pilot judge when to order the flying firemen to leave the plane.

"Bailed out as per instruction of pilot about one half way between letting out place of the two burlap parachutes. Stepped off step, falling feet first and

Photo by U. S. Forest Service

These parachute jumpers are wearing equipment designed to protect the body from injuries when landing on trees, and on other rough terrain.

slightly backward as intended. Also started falling or turning over on my right side as not intended. Opened 'chute after falling approximately two seconds. Opening shock very easy. After inspecting 'chute for rips and finding none, I noted that I was facing away from the test fire. Turned around to the north facing fire. Studied position a bit and decided I might overshoot so turned back south. After descending approximately 300 ft. facing south decided there was very little drift so turned back to the north. At this time I was probably 1,000 ft. from the ground and noticed the ground crew running south from the fire or toward me. Pulled parachute cords down until about 200 ft. from the ground and noticed that I was drifting into a small clearing. Released the same parachute cords and pulled down hard on shroud lines which caused the parachute to slip sideways into 115 ft. Douglas fir tree, falling about 15 ft. from the top. Released parachute cords and descended the tree by rope in two stages. Distance of the tree from the test fire was 192 ft."

In making the experiments parachute jumps were taken at all conceivable altitudes and upon every type of wooded terrain. Considerable study was made in the methods to be used for jumpers to extricate themselves quickly from trees and branches. About five minutes was finally the average time required for the jumper to free himself from the 'chute and climb from a high tree to the ground.

The needed tools with which to fight fire are sent to the "smoke chaser" by means of another parachute dropped from the plane from which he jumps. These are dropped as near him as possible. In order that the jumper can easily find his tools, long yellow streamers are attached to the fire tool kit. This firemen's kit, as proposed for timber jumpers, contains among other things a shovel, a back pack and pump, flashlight, first aid kit, canteen, and rations.

At the time of these parachute tests, no actual fires were fought by this method. Nevertheless, a number of valuable observations were made. Since fire fighting is strenuous work, it is to the advantage of the fire fighter to be as physically fresh as possible. All the men who jumped in connection with these parachute tests indicated that there would be much less fatigue in jumping and landing in a forest than would occur from even a short hike uphill to a fire. They also suggested that jumpers should attempt to land their parachutes, if possible, above the grade of the spot fires so that they could walk downhill to the attack. Much information was gathered about the dangers which exist in tree and other type landings, and the methods of communication between plane pilot and jumper. Short wave radio and smoke bombs have been suggested as a desirable means of communication between jumpers and the airplane pilots.

For an area of 50 miles radius from the airport, the following schedule was experimentally worked out to determine the estimated time from the receiving of the fire alarm to the arrival of the firemen in the near vicinity of the fire.

10 minutes (warning), to warm up plane motor and dress jumpers.
10 minutes for take-off and climb to altitude.
25 minutes to travel 50 miles.
10 minutes procedure of letting out two jumpers from plane.

—

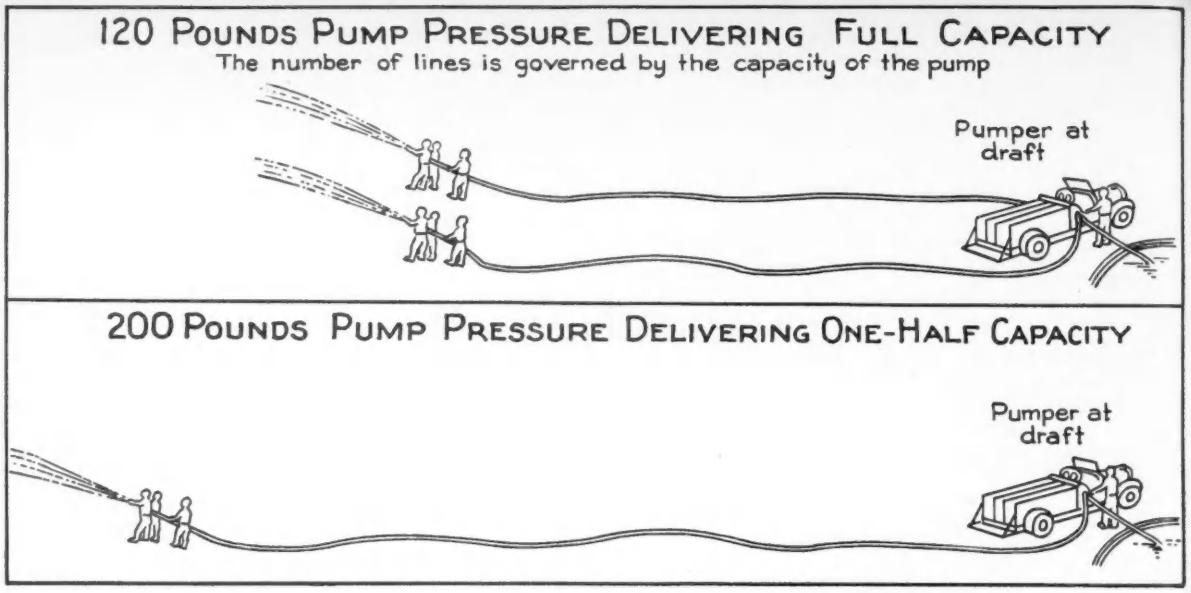
55 minutes total elapsed time from report of fire to arrival of smoke jumpers near fire.

The potentialities of this aerial method of bringing firemen to the scene of a fire in inaccessible locations in a forest are promising. As a beginning, parachute fire fighters will protect the inaccessible regions of the Sequoia National Forest from ravages of lightning fires this year. Personnel is available among the regular forestry staff to be trained as additional parachute jumpers. Training these men for this type of work is relatively simple. Among the experienced jumpers who participated in these smoke jumping tests last fall were a number of regular men from the U. S. Forest Service. All of them were extremely anxious to try this novel and efficient method of making parachute jumps to fight forest fires.

Photos by U. S. Forest Service

This fire fighting parachute jumper lands on an open ridge within 70 feet of the target.

A "flying fireman" prepares to disengage himself from 'chute and climb to the ground.


120 Pounds Pump Pressure Delivering Full Capacity
The number of lines is governed by the capacity of the pump
Pumper at draft
200 Pounds Pump Pressure Delivering One-Half Capacity
Pumper at draft

Pumper Performance

MOST firemen rightly understand that an increase in pressure at a nozzle increases the output of a stream. However, sometimes improperly instructed pumper operators have been known to run their pumps at unreasonably high pressures, not realizing that pumpers have mechanical limitations which lower their output when pressures are higher than the pressure at which the pump is designed to turn out its full volume of water. In addition, excessive pressures not only make hose lines harder to handle but often cause needless wear and tear on hose and apparatus.

As shown in the accompanying illustration, most pumpers (when operating at draft) are pushing out top capacity at 120 pounds engine discharge pressure. If greater pressure is needed, more power is required for this purpose. The operation of a pumper in pressure gear may be compared with the way a motor car is operated in low (or power) gear. In the case of the pump less water is delivered with more force, while with the car, speed is sacrificed for increased pull. This loss of pumping capacity at high pressures is a deliberate result of pump arrangements designed to develop high pressure for special situations where it is necessary to send water through long hose lines or to high elevations.

Any standard pumper will give only half of its normal capacity at 200 pounds engine pressure. If the pressure is stepped up to 250 pounds, the output of the pumper is cut to one third of its total output as rated at 120 pounds pressure.

FIREMEN AND FIREMEN

By Chief J. W. Just
Fire Service Extension Department
University of Maryland

In every state there are three kinds of firemen:

1. The serious-minded fireman who takes his job seriously, and who recognizes the fact that firemanship is rapidly becoming a science.
2. The social fireman. He does not need to be defined further.
3. The fireman who knows all there is to be known about firefighting.

It is practically impossible to draw any definite lines between these groups until you bring on an educational program. Then, the lines of demarkation are clearly drawn for all the world to see. And the world sees the groups thus:

The first group is actively and enthusiastically interested. The members of the group read all available literature, take all classroom instruction offered, and do not let lack of education or the inability to write or spell stand in their way for a moment.

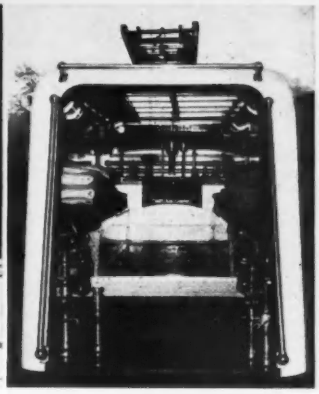
The second group just are not interested, and not only take no part, but are inclined to ridicule those who do.

The third group splits into the other two; however, they are not lost. Wherever they go they are easily discernible as they are sufficiently noisy to stand out. If they go with the social group, they take the lead in razzing the real firemen in group one. If they go with group one, they are conspicuous in three ways: First, they monopolize the class discussion, generally disagreeing violently with the class leader. Second, they do not feel any need to read anything, especially the lesson reference material. Third, their answers to examination questions are either frivolous or clearly indicative of a lack of knowledge of the subject in question. And the peculiar part of it is that these fellows are not even embarrassed when the fireman with considerably less education tops them in final marks—which he generally does.

Another thing that, strangely enough, fails to register with this third group is the fact that the really outstanding chiefs of the state are always to be found in group one.

The fireman who really does know his business realizes that the fire service is constantly changing. In order to stay at the top he must overlook no opportunity to learn. Such men are willing to sit through hours of class work that is definitely kindergarten to them in the hope they will pick up one new idea that will help them. And, it is our firm belief that no man can sit through three hours of class discussion, with a group of class one firemen, and not get something of value.

The reason for this brief discourse is simply to hazard a prophecy—and we do not claim to be a crystal-gazer either—and that is that groups two and three are on the way out of the fire service. Group number one is slowly but surely building and greasing the skids under them. And as this group progresses it will more and more resent the presence of the others who are not only unskilled and untrained in the profession, but who are a positive menace to the safety of the modern, skillful fireman.



THE illustration above shows a new White pumper used by the fire department in Stillwater, Oklahoma, at a recent apartment house fire. The pump is a 600-gallon per minute multi-style centrifugal unit manufactured by American-Marsh Pumps, Inc. The apparatus' standard equipment includes 600 feet of 1½-inch hose connected to a discharge manifold, in three 200-foot lengths with nozzles attached to each line. There are also 200 feet of 1-inch hose, 20 salvage covers, vapor nozzles, and a 300-gallon booster tank with a 3-inch intake to which a hydrant line may be connected to supply the pumper or booster tank.

Features of the apparatus worthy of note include cab over the engine, which is a departure from the usual style of fire engine design. Such arrangement lends itself to greater maneuverability. Instead of having the hose to the rear of the apparatus, it is conveniently located back of the driver. This makes more accessible the salvage covers, suction hose, roof ladder, booster hose and the various nozzles. Notice that the truck houses all equipment inside, away from dirt and rain. This equipment may be seen in the view of the enclosed squad body showing the rear of the truck. An extension ladder for life saving is bedded above the roof.

The truck was recently put into operation as a "squad unit" by Chief J. Ray Pence. As was described on page 4 of the June issue of VOLUNTEER FIREMEN, the squad is the first piece of fire apparatus to arrive at a fire. It carries 200-foot lines of 1½-inch hose already connected to the pumping supply by a 300-gallon water tank on the truck. This arrangement gives powerful streams which can be placed in service as quickly as the small booster line with the old style rigs.

As the "squad" truck arrives at the point of operation it lays a 2½ or 3-inch supply line from the nearest hydrant. This line is used to keep the 300-gallon tank filled, so high pressure is not necessary even for long lines.

The Cry of Wolf!

From time to time the editors of VOLUNTEER FIREMEN receive pleas from readers complaining of "false alarms" caused by noises resembling their local fire sirens. In many instances on summer evenings a neighbor's radio turned to a crime-serial broadcast over which sirens are screaming has caused volunteers to rush to their fire station. Upon arrival they would find that their dash was needless. A few such cases are enough to make many volunteers extremely suspicious of false alarms when they hear a siren. As in the case of the old "cry of wolf," they become unresponsive to what may be a real emergency call.

It is probably impossible to control a neighbor's radio or to make broadcasters desist from such stark realism. This throws the responsibility back to the fire department. They must see to it that their own alarm system is distinctive enough not to be confused with "phoney" sirens. Some departments have found it helpful to have auxiliary sirens or bells located near members who reside some distance from the station.

Cooperation with other emergency forces such as police and ambulance services is necessary in order to make certain that each has a distinctive warning. Volunteer firemen may otherwise be led astray as in the following instance which is reported by the Associated Press from Tappahannock, Virginia.

"Members of the volunteer fire department dropped knives and forks as a wailing siren rent the noonday calm. From their luncheon tables to a man they came and in short order had reached the fire station and had the engine wheeled out on Prince Street. Still the siren shouted.

"The volunteers were hard put to find the blaze that wasn't there until a State patrolman came up and admitted somewhat sheepishly:

"'The siren on my car seems to be stuck.'"

The "Model A" Super

Which Every Volunteer Fire Department Should Know About

Both 1 Quart and 1½ Quart Sizes

Every volunteer Fire Department should know the exclusive qualities of this first-aid extinguisher which experience shows should be the first to be carried into any fire because:—

FIRST:—
It is safe to use on electrical fires. Fyr-Fyter fluid is not only a powerful fire extinguishing fluid, but a most certain insulation—safeguarding the operator against serious injury or possible death from electrical contact.

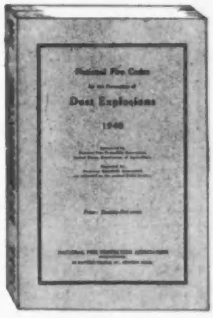
AND SECOND:—
It is effective on concealed fires in walls and other "hard to reach" locations and is effective also on fires in greases, oils and the more flammable liquids.

SALESMEN WANTED

If you are interested in adding to your income by spare time work or in building a permanent business for yourself without investment in stock, fixtures, etc., write for our new Dealer's Plan to

THE FYR-FYTER COMPANY
Dept. 20-56 DAYTON, OHIO

NATIONAL FIRE CODES
for the prevention of
DUST EXPLOSIONS



136 pages
6 x 9 inches
Illustrated

It contains:

(1) Safe methods for fighting fires in some common flammable and explosive dusts.

(2) The eleven American Standard Dust Explosions Codes.

(3) A statement of fundamental principles for the prevention of dust explosions.

(4) A record of 671 dust explosions in the United States.

Single Copies . . . . . 75 cents

NATIONAL FIRE PROTECTION ASSOC.
60 Batterymarch Street, Boston, Mass.

Easier - Quicker - Cheaper

There's nothing gets at those bothersome small fires in roofs, chimneys, rooms, partitions and buildings like an INDIAN FIRE PUMP. Uses only clear water. No inspection necessary. Always ready. Sling on back or carry by handle. Easy pumping throws strong pressure stream. Quickly refilled at any water supply.

No Hose To Lay — Minimum Water Damage

INDIANS are the greatest all 'round fire fighters on the truck. Use them to do more jobs at less cost. That's why departments all over the U. S. say they wouldn't be without them. Inexpensive, too. Carrying racks available.

Write for catalog and price list

D. B. SMITH & CO.

413 Main St., Utica, N. Y.

PACIFIC COAST AGENTS:

Hercules Equipment & Rubber Co.
550 Third Street
San Francisco, Calif.

Western Loggers' Machinery Co.
302 S.W. 4th Street
Portland, Oregon

Mill & Mine Supply, Inc.
2700 Fourth Ave., South,
Seattle, Wash.

Roy G. Davis Co.
617 East Third St.,
Los Angeles, Cal.

FIRE DEPARTMENT SALARIES BY POPULATION GROUPS

United States and Canada, 1940

Population Group		Chief	Captain	Fire Fighter (maximum)
Over 500,000 (17 cities)	Highest	$12,500	$4,500	$3,000
	Median	6,500	2,700	2,196
	Lowest	5,600	1,912	1,642
200,000 - 500,000 (29 cities)	Highest	6,000	3,200	2,500
	Median	4,500	2,220	1,920
	Lowest	3,720	1,740	1,540
100,000 - 200,000 (55 cities)	Highest	6,500	4,000	3,000
	Median	3,650	2,169	1,927
	Lowest	2,800	1,539	1,383
50,000 - 100,000 (114 cities)	Highest	6,000	3,950	3,000
	Median	3,238	2,015	1,800
	Lowest	1,860	1,380	1,188
20,000 - 50,000 (271 cities)	Highest	5,040	3,750	2,628
	Median	2,520	1,860	1,713
	Lowest	1,575	1,080	840
5,000 - 20,000 (192 cities)	Highest	4,100	3,500	3,000
	Median	1,920	1,650	1,500
	Lowest	1,140	960	900

This table is compiled from figures for individual cities appearing in the April, 1940, issue of the *International Fire Fighter*, published by the International Association of Fire Fighters.

The number of cities in each population group is the number of cities reporting the salary of the chief, with a fewer number reporting for other positions.

This table does not show the pay scales for lieutenants because with the exception of the cities over 500,000 population the median pay scale for this rank is almost identical with that of captains.

Average salaries for each group could not be accurately determined unless the number of men receiving each grade of pay is also used in the calculation. The salaries in each population group, however, may be listed starting with the highest and ending with the lowest. The "median" figure used in the tables is the figure half way down the list. As the center figure in the list there are as many cities above it reporting higher salaries as there are below it reporting lower ones. In such a series of figures this "median" is the most representative figure of the group under consideration.

Whistle "Talk"

Thousands of volunteer firemen undoubtedly live alongside railroad right-of-ways and are familiar with the "talking" of railroad locomotives. At night they can discern between the routine whistle for grade crossings and emergency signals which warn other trains of a sudden unscheduled stop. Many firemen may not know that the standard railroad whistle language also contains a fire alarm signal. This signal although primarily intended to call out railroad section hands for a fire along the right-of-way, frequently gives the first warning of a serious fire in some community through which the road passes.

Volunteer firemen familiar with railroad whistle talk frequently get a head start on their own fire siren when railroad men spot a fire. When these firemen hear one long and three short whistle blasts repeated ——— — — —, ——— — — —, they lose no time getting under way and they often are the first to arrive where flames have broken out.

Recently, a Western Maryland Railroad freight train crew was credited with having saved the lives of 11 persons, when an early morning fire destroyed their two-story frame dwelling in the foothills of the South Mountain in Western Adams County. Fortunately for the home owners the railroad tracks ran close to the dwelling. The train's conductor and engineer, noticing flames bursting from the first floor of the house, sounded the sharp ——— — — —, ——— — — —, with the locomotive whistle which awakened the occupants just in time.

Some of our readers living near the shore line may also know the universal marine fire call of three long and two short blasts: ——— ——— ——— — —. In event of a fire on shipboard this signal is sounded on the vessel's whistle, fog horn or siren until answered by a fireboat or other rescue craft.

State Fire School Short Courses Summer of 1940		
11th Missouri (S. E.)	Aug. 7-8	Charleston
2nd Pennsylvania	Aug. 26-30	State College
11th Maryland	Sept. 3-6	College Park
10th Kansas	Sept. 10-13	Lawrence

ADDITIONAL TRAINING TEXTS

Fire Extinguishers. (International Association of Fire Chiefs, 24 West 40th Street, New York, N. Y. 24 pages, planographed. 25 cents.) Latest publication in the fire chiefs' series.

The Fire Alarm System, by Frank Cushman and H. A. Friede. (Vocational Division Bulletin No. 207, Federal Security Agency, U. S. Office of Education, Washington, D. C. 88 pages. 15 cents, from Superintendent of Documents, Washington, D. C.) An analysis of the work of the fire alarm bureau of a fire department, with a discussion of the problems of training likely to be encountered.

NEW ALL-VISION GAS MASK

Addition of the M. S. A. All-Vision Facepiece to the M. S. A. All-Service Gas Mask is described in a new bulletin just issued by the Mine Safety Appliances Company.

Copies of Bulletin EA-6, describing the All-Service Mask and the new All-Vision Facepiece may be obtained by writing direct to the manufacturer at Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

NEW FLASHLIGHT BULB EXTENSION

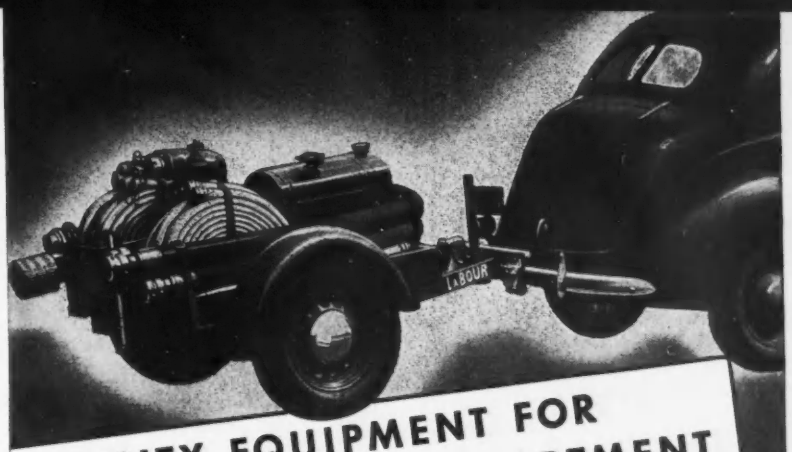
Firemen often find it necessary to make inspections in walls between studding, through cracks in floors, through holes, and in other places where an ordinary flashlight cannot penetrate. For this purpose a novel flashlight bulb extension has been developed. It has a long extension which can be bent in any position, or formed as a hook, or stand to leave the hands free to work. Made in lengths from 6 inches to 36 inches, the extension has a plug which will screw into any flashlight with the bulb in the opposite socket.

The device is made by the Sierra Aircraft Company, Sierra Madre, California. It is made of special copper wire encased in aluminum alloy tubing.

1500 A. D.

"A little fire is quickly snuffed out, which being suffered, rivers cannot quench."

William Shakespeare



UTILITY EQUIPMENT FOR ANY FIRE DEPARTMENT

● This comparatively inexpensive unit "fills in" in many important ways to make any fire department, large or small, better able to do its work.

Within its capacity—150 G.P.M. at 100 lbs. pressure—it will do any work required. Readily attached to any passenger car, it will negotiate many roads which a heavy pumper cannot travel. For outlying or farm fires it is therefore ideal.

Also, you will find it useful for dewatering basements or other "clean-up" work after fires or in other emergencies. The self-priming centrifugal pump cannot clog and is not harmed by dirty water.

Full details will be supplied on request.

LABOUR FIRE TRAILER

THE LaBOUR COMPANY, Inc. • Elkhart, Indiana, U. S. A.

increased - COMFORT and SAFETY* FOR TODAY'S FIREFIGHTERS

*Officially approved by the U. S. Bureau of Mines

The M·S·A ALL-SERVICE GAS MASK WITH THE NEW ALL-VISION FACEPIECE

When the hazards of Industrial gases, fumes or smokes must be faced in the line of duty, you can rely on the approved protection of the famous M.S.A. All-Service Mask—most popular canister-type unit ever developed, and now greater than ever! With the new All-Vision Facepiece, vision is unrestricted, lens-fog is eliminated, dead air space is reduced to the minimum, and easy gas-tight fit of the molded all-rubber facepiece is provided for any face without binding or local pressure. In every finer detail, you get increased comfort and convenience—at the new low price! Have us demonstrate the M.S.A. All-Service Mask for *your* Department, without obligation—and *write for Bulletin No. EA-6.*

MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS & MEADE STREETS PITTSBURGH, PA.

District Representatives in Principal Cities

YOUR NEW FIRE TRUCK DESERVES the BEST

SPECIFY a TRAFFIK-KING SIREN AND OSCILLATING LIGHT

Federal Electric Co., Inc.
8717 South State St., Chicago, Ill.

N. F. P. A. Membership

INDIVIDUAL membership in the National Fire Protection Association costs $10 per year. The membership plan for the Volunteer Firemen's Section is designed to give each fire company the advantages of N.F.P.A. membership. The fire company, as a member, receives at its headquarters a complete set of all regular N.F.P.A. literature, including the *Quarterly* magazine, as issued. In addition, as a special service to the Volunteer Firemen's Section, each fire company holding N.F.P.A. membership is entitled to have copies of the magazine VOLUNTEER FIREMEN sent to the home addresses of 10 firemen each month. If more than 10 firemen want to receive the magazine, an additional $1.00 should be sent in with the membership fee for each fireman in excess of 10 enrolled.

Because of the large amount of material mailed to members, not less than $10 can be accepted from any company.

$10.00-$3.00-$2.00 EACH MONTH

PYRENE PRIZE LETTER CONTEST

● **IT'S EASY TO WIN!!!**

Have you ever put out a fire with a fire extinguisher? If you have you can put yourself in line for a cash prize.

● **WRITE A LETTER . . . .**

That is all that you have to do. Just write us about an experience where an approved extinguisher of any make did good work in stopping a fire.

● **RECEIVE $10.00 FOR 250 WORDS**

You can, by winning first prize. Decide to be one of the three firemen this month who will take home a cash prize by simply relating an experience with any approved fire extinguisher in this contest sponsored by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN.

● **NO RED TAPE . . . .**

No fancy writing, no formality — merely send your entry to the address given below.

FIRST PRIZE—$10.00

WILLIAM E. DODGE
Laconia Fire Department
Laconia, N. H.

Extinguishes Barn Fire

I am a regular fireman in the Laconia Fire Department. On my day off, Thursday, June 13, I went trout fishing in the town of Belmont. On the way I passed one of the last houses in the village where I noticed a lot of smoke coming out of a small barn attached to a house. I immediately stopped my car, grabbed my one quart carbon tetrachloride extinguisher, and ran to the barn. There I discovered a kerosene stove which had flooded and spread burning oil around the floor and one wall. The flames, although they were leaping quite high when I opened my extinguisher, were easily subdued as I directed a stream at the base of the oil flame. A couple of pails of water served to put out the remaining flames. The fire had spread when the woman living in the house attempted to put it out by beating at it with a rug. She had neglected to call the town fire department with the hope of being able to put the fire out herself.

SECOND PRIZE—$3.00

A. G. HANNA
Boardman Volunteer Fire Department
R. D. No. 4, Youngstown, Ohio

Forces Window to Get at Fire

At present I am a sub-station operator for the Ohio Edison Company. Some time ago I was a street car operator working a one-man car between the cities of New Castle, Pa. and Youngstown, Ohio. One day as I approached some houses near the car line in the vicinity of Lowellville, Ohio, I saw a flame in the front window of one of them. Stopping the car, I took the 1½-quart carbon tetrachloride extinguisher, and ran to the house. As there was no one at home, I forced open the front window. The flames were coming from the curtains. The rug which was also burning was just getting nicely started. I truthfully believe this house would have been ruined if it had not been for this small 1½-quart extinguisher, as there was no one at home, and the fire department was about two miles away.

THIRD PRIZE—$2.00

KARL A. WALKER, *Chief*
Fredericton Fire Department
New Brunswick, Canada

Firehouse Basement Catches Fire

While standing on the apparatus floor of the Central Fire Station checking the equipment with the drivers of the four units, I smelled a very nasty, cutting kind of smoke which came from the cellar, up through the hose drying tower.

I immediately told two drivers to each bring a 2½-gallon soda-acid extinguisher and the other two men to drive the machines out on the street. I ran down to the basement and found it in flames. The fire had started from the heating plant.

I grabbed a soda-acid extinguisher from one driver and sprayed the walls and ceiling which let me get to the bulk of the fire, over and around the furnace. There I used the second chemical extinguisher, which killed the fire, and, needless to say, saved the station.

The City Council was well pleased that the station was not gutted, especially as our alarm system is located in the same building.

HONORABLE MENTION

A. S. HANSON, *Chief of Fire Marshals*
Fire Dept., Heron Lake, Minn.

EARL A. JUDD, *Chief*
Colfax, Illinois

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

RURAL FIRE DEPARTMENTS 1940

A 32 page pamphlet
Price 20 cents

This pamphlet recently revised by the N.F.P.A. Committee on Farm Fire Protection contains suggestions for the operation of volunteer fire departments.

CONTENTS

I. Equipment, Apparatus

II. Organization

III. Volunteeer Fire Department Ordinance and Rules

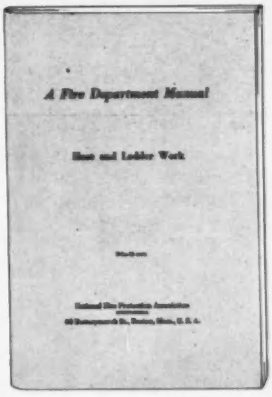
IV. State Legislation for Fire Department Organization

National Fire Protection Association
INTERNATIONAL
60 Batterymarch St., Boston, Mass.

N F P A Publications

Write for a complete list of N.F.P.A. publications. Following is a partial list of popular and useful books and pamphlets available at the prices quoted. Address: National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

FIRE DEPARTMENT MANUAL



HOSE and LADDER WORK

A number of outstanding drill masters and fire department instructors contributed to this manual. Principal operations involving hose and ladder work are described in detail.

38 illustrations
64 pages 6 x 9 inches

Single copies.....50 cents.

National Fire Protection Association
INTERNATIONAL
60 Batterymarch St., Boston, Mass.

Common Hazardous Chemicals, Table of eighty-two of the more common chemicals dangerous in fire fighting. Points to be considered in fire fighting are given for each, together with a description of the fire and life hazard.
Fourth Edition, 24 pages.....20 cents.

Keep Your Home From Burning. Illustrated colored folder 3½ x 6½ inches. Price $1.50 per hundred. Sample free.

Make Your Chimneys Safe. Includes 10 rules for chimney construction, instructions on cleaning chimneys, and hints on extinguishing chimney fires. Colored folder. Price $1.50 per hundred. Sample free.

Air Conditioning and Blower Systems. Regulations prepared by the N.F.P.A. Committee on Blower Systems. The subject is one of tremendous importance to fire fighters because fires frequently spread through these systems. The publication also covers warm air heating systems in residences, and blower systems for removal of flammable vapors and residue, and dust, stock and refuse conveying systems.
32 pages, 11 illustrations.....15 cents.

Water Systems for Fire Protection on Farms. A pamphlet prepared by N.F.P.A. Committee on Farm Fire Protection suggesting means for utilization of available water supplies for extinguishing farm fires. Presents essential features needed to give reasonably adequate fire protection.
12 pages, 7 illustrations.....10 cents.

A Model Records and Reporting System for Fire Departments

Size of book, 8½ x 11 inches
87 pages, 27 forms, 7 figures
Price, $2 each, postpaid

This manual suggests a detailed and well-rounded plan that should help to solve many of the problems that now confront fire chiefs in small as well as large cities and towns. It shows how a records and reporting system should operate. It includes copies of the 27 forms considered important in fire department work.

The record forms contained in this book have met with such acceptance by fire chiefs and fire departments that most of the forms have now been separately printed to meet the demands of departments wishing to purchase supplies of the blanks. Write for a price list for the various record forms. If your department has not yet obtained a copy of the Model Records and Reporting System book ask for a circular describing it so that you will have full information on the many reporting blanks available.

National Fire Protection Association
INTERNATIONAL
60 Batterymarch St., Boston, Mass.

1000 School Fires. A record of 1000 school fires reported to the N.F.P.A., including the New London, Texas, school explosion and other major school disasters involving a total loss of life to 400 persons. Analysis of fires, cause, and origin. Selected reports illustrate points of special interest such as the effectiveness of automatic sprinklers and fire drills.
76 pages, 47 illustrations.....35 cents.

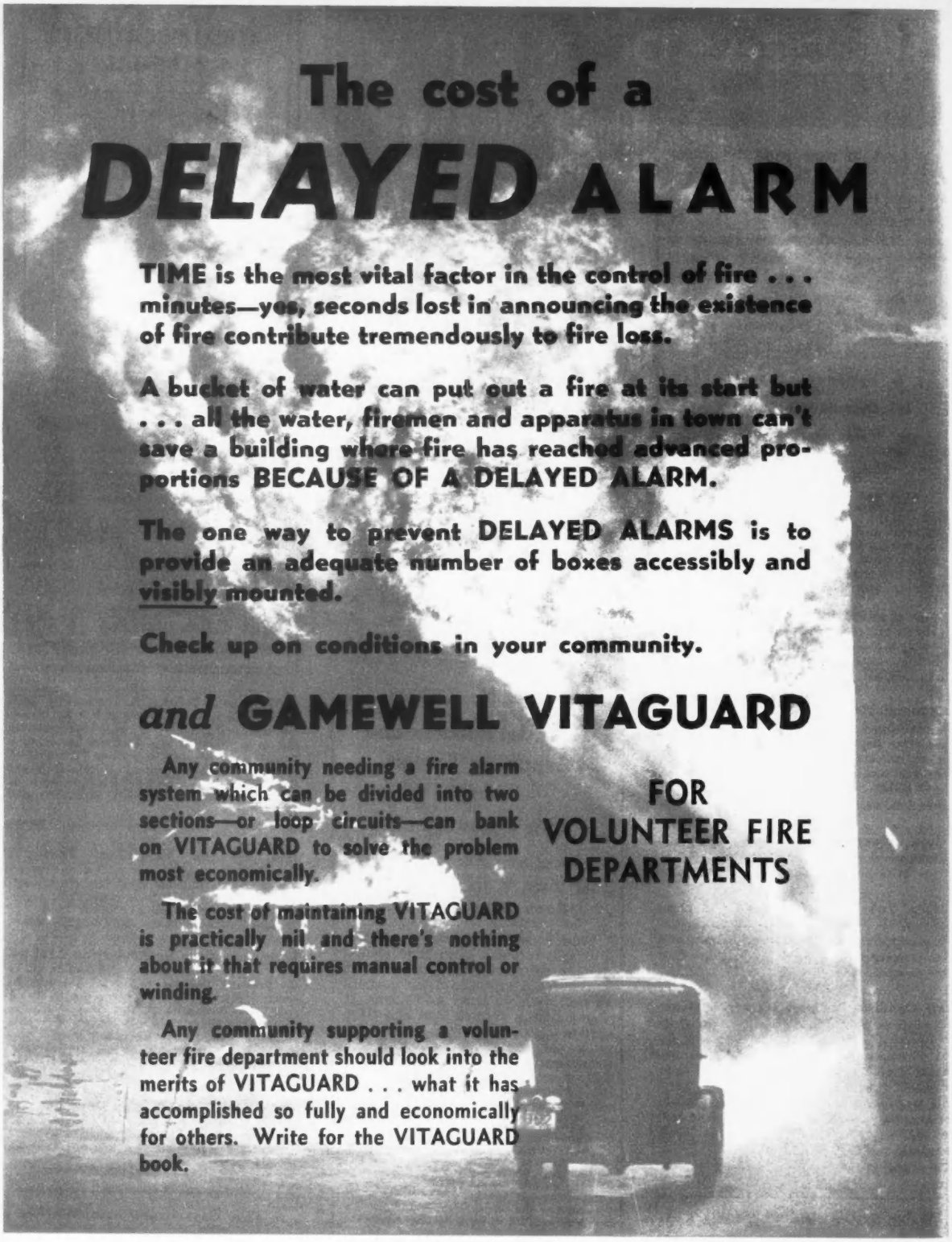
Hospital and Institution Fires. A record of 202 hospital and institution fires reported to the National Fire Protection Association. Analysis of fires, cause, origin; including selected reports of typical fires.
68 pages, 37 illustrations.....35 cents.

Lightning, Code for Protection Against. Most of the 400 annual deaths and much of the property loss due to lightning occurs in rural districts. Properly installed lightning rods have demonstrated that they will give buildings positive lightning protection. This publication shows how to install them. Also covers lightning protection for smokestacks, aircraft, ships, trees and live stock in fields.
40 pages, 5 illustrations.....15 cents.

Preventing Farm Fires. Describes the leading cause of farm fires and tells how they may be prevented. Also contains details on fire protection for farms. Price $1.50 per hundred. Sample free.

A Fire Department Manual—Hose And Hose Couplings

A substantial manual of 44 pages, 6 in. by 9 in., 11 illustrations, containing informative material on the selection, care and testing of hose and hose couplings, compiled from recommendations of N.F.P.A. committees and other authoritative sources.
Single copies.....25 cents.


The cost of a
DELAYED ALARM
TIME is the most vital factor in the control of fire . . . minutes—yes, seconds lost in announcing the existence of fire contribute tremendously to fire loss.
A bucket of water can put out a fire at its start but . . . all the water, firemen and apparatus in town can't save a building where fire has reached advanced proportions BECAUSE OF A DELAYED ALARM.
The one way to prevent DELAYED ALARMS is to provide an adequate number of boxes accessibly and visibly mounted.
Check up on conditions in your community.
and GAMEWELL VITAGUARD
FOR VOLUNTEER FIRE DEPARTMENTS
Any community needing a fire alarm system which can be divided into two sections—or loop circuits—can bank on VITAGUARD to solve the problem most economically.
The cost of maintaining VITAGUARD is practically nil and there's nothing about it that requires manual control or winding.
Any community supporting a volunteer fire department should look into the merits of VITAGUARD . . . what it has accomplished so fully and economically for others. Write for the VITAGUARD book.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS, MASSACHUSETTS